

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended). A method of deterring document counterfeiting comprising:

providing at least one authentic hard-copy document, each of said authentic hard-copy document including at least one mark having at least one color that is out of gamut of a printing device having at least three ink colors, said out of gamut color being printed using a custom-color ink;

color scanning a plurality of candidate documents to form scanned documents each having a two-dimensional array of image pixels for each candidate document;
searching each array for said at least one out-of-gamut color mark; and
sorting said plurality of candidate documents into a first group of scanned documents not having said at least one out-of-gamut color mark, and into a second group of scanned documents having said at least one out-of-gamut color mark, so that said scanned documents in said first group being characterized as counterfeit, and said scanned documents in said second group being characterized as authentic; and

wherein said out of gamut color produced by said custom color ink is selected from a differential gamut color volume lying outside a printable colors gamut volume but inside both an object colors gamut volume and a gamut of physically realizable colors of a 3-dimensional color space.

Claim 2 (Previously Presented). The method as recited claim 1, wherein each of said pixels has at least three color pixel values.

Claim 3 (Previously Presented). The method as recited claim 1, wherein the step of color scanning includes employing a colorimeter.

Claim 4 (Canceled)

Claim 5 (Previously Presented). The method as recited claim 1, wherein the step of providing authentic hard-copy documents includes providing a plurality of bank checks.

Claim 6 (Previously Presented). The method as recited claim 1, further comprising:

- noting correct pixel locations of said at least one color in said authentic document;
- determining particular pixel locations of said at least one color in each of said second group of scanned documents; and
- forming a third group of scanned documents not having said particular pixel locations corresponding to said correct pixel locations, and into a fourth group of scanned documents having said particular pixel locations corresponding to said correct pixel locations, so that said scanned documents in said third group being probably counterfeit, and said scanned documents in said fourth group being possibly authentic.

Claim 7 (Previously Presented). The method as recited claim 1, further comprising employing an authentication test taken from a group of authentication tests consisting of:

- gamut color size correspondence;
- gamut color location correspondence;
- magnetic number correspondence;
- checking account pattern-of-use exception;
- unexpected presence of ultraviolet fluorescing;
- unexpected presence of thermochromic responding;

unexpected presence of laser resonating inks;
unexpected absence of ultraviolet fluorescing;
unexpected absence of thermochromic responding;
unexpected absence of laser resonating inks; and
any combination of these authentication tests.

Claim 8 (Currently Amended). An apparatus for deterring document counterfeiting comprising:
means for providing at least one authentic hard-copy document, each said authentic hard-copy document including at least one mark having at least one color that is out-of-gamut of a printing device having at least three ink colors, said out of gamut color being printed using a custom-color ink;
means for color scanning a plurality of candidate documents in forming a two-dimensional array of image pixels for each candidate document;
means for searching each array for said at least one out-of-gamut color mark; ~~and~~
means for sorting said plurality of candidate documents into a first group of scanned documents not having said at least one out-of-gamut color mark, and into a second group of scanned documents having said at least one out-of-gamut color mark, so that said scanned documents in said first group being characterized as counterfeit, said scanned documents in said second group being characterized as authentic; and
wherein said out of gamut color produced by said custom color ink is selected from a differential gamut color volume lying outside a printable colors gamut volume but inside both an object colors gamut volume and a gamut of physically realizable colors of a 3-dimensional color space.

Claim 9 (Previously Presented). The apparatus as recited claim 8, wherein the means for providing authentic hard-copy documents includes means for providing a plurality of bank checks.

Claim 10 (Previously Presented). The apparatus as recited claim 8, further comprising:
means for noting correct pixel locations of said at least one color in said authentic document;
means for determining particular pixel locations of said color in each of said second group of scanned documents; and
means for forming a third group of scanned documents not having said particular pixel locations corresponding to said correct pixel locations, and into a fourth group of scanned documents having said particular pixel locations corresponding to said correct pixel locations, so that said scanned documents in said third group being probably counterfeit, said scanned documents in said fourth group being possibly authentic.

Claim 11 (Currently Amended). A method comprising imparting a plurality of marks onto a hard copy using at least one custom colored ink, and subsequent evaluation of a scanned and digitized image of said hard copy for the purpose of counterfeit detection, including the steps of:
providing a hard copy;
imparting onto said hard copy at least one visible mark using at least one chosen colored ink, each said marks covering an area of coverage on said hard copy and each area of coverage having defined position within said hard copy;
scanning said hard copy to form a digitized image having at least three image planes, each

said image plane being represented by an array having pixel brightness data for a plurality of pixels, each of said pixels having at least three color component and having a pixel position;

examining the pixels of said digitized image corresponding to the at least one said area of coverage; [[and]]

determining the presence or absence of the expected color in said at least one area of coverage based on the values of the color components of pixels corresponding to and lying within said area of coverage; and

wherein said expected color is an out of gamut color produced by said at least one custom-colored ink, said out of gamut color selected from a differential gamut color volume lying outside a printable colors gamut volume but inside both an object colors gamut volume and a gamut of physically realizable colors of a 3-dimensional color space.

Claim 12 (Original). A method as recited in claim 11, wherein said scanned and digitized image is transaction document.

Claim 13 (Canceled).

Claim 14 (Original). A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for authentication testing, said method steps comprising the steps of claim 1.

Claim 15 (Canceled).

Claim 16 (Original). A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for authentication testing, said method steps comprising the steps of claim 11.

Claim 17 (Canceled).

Claim 18 (Canceled).